CASE REPORT

Gestational gigantomastia with spontaneous resolution in an Indian woman

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SUMMARY

We present the case of a 20-year-old woman, primigravida with 24 weeks of amenorrhoea due to pregnancy. She came with symptoms of rapidly increasing size of both the breasts since 8 weeks. On examination, both breasts were grossly enlarged, right more than left, with the level of the nipples reaching beyond the level of the umbilicus. Breast circumference was measured to be 72 cm on the right, and left breast was 66 cm. No palpable lumps in both breasts. No axillary lymphadenopathy noted. Hormonal studies were found to be within the normal range. The pregnancy was terminated due to pre-eclampsia. The patient opted for regular follow-up and observation. While regularly following up, the size of both breasts was observed to gradually reduce to a circumference of 40 cm on the right and 30 cm on the left.

BACKGROUND

Gestational gigantomastia is a rare disease which can often be confused with physiological breast hypertrophy of pregnancy. It must be distinguished from other causes of rapid breast enlargement such as phyllodes tumour and malignancies. Around 100 cases of gestational gigantomastia have been reported in medical literature.¹ The first ever case was reported by Palmuth in 1648.² The incidence has been reported to be between 1 in 28 000 to 1 in 100 000 pregnancies.³ It is a condition which causes physical pain as well as psychological morbidity. The breast is an important asset to a woman's self-esteem, and hence care must be taken to avoid psychological trauma.

Figure 2 Gestational gigantomastia.

CASE PRESENTATION

We present the case of a 20-year-old Indian woman, primigravida with 24 weeks of amenorrhoea due to pregnancy. She came with complaints of rapidly increasing size of both the breasts since 8 weeks. The increase in size was rapidly progressive. The patient wore a brassiere size of 32C and said she could not find a brassiere which fits her. It was associated with a dragging type of pain and ache of the upper back. No complaints of nipple discharge or lumps in the breasts or axillae. The patient gave unremarkable menstrual history, with menstruation lasting for 4 days every 28 days prior to this pregnancy. No similar complaints in the family.

Figure 1 Patient with gestational gigantomastia.

Figure 3 Right lateral view of gestational gigantomastia.

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Figure 4 Left lateral view of gestational gigantomastia.

The patient was extremely shy. She neglected the problem due to lowering of self-esteem and was hence hesitant to visit a doctor. She was eventually convinced by her family to get a consultation.

She measured 155 cm in height and weighed 45 kg.

On examination, both breasts were grossly enlarged, right more than left, with the level of the nipples reaching beyond the level of the umbilicus (figures 1–4). Dilated veins present over the skin noted on both sides. No nipple discharge seen. No local rise of temperature. Breasts were non-tender. Breast was soft in consistency. No palpable lumps in both breasts. No breast ulceration noted. No axillary lymphadenopathy noted.

The measurements of the breasts were as follows:

Right breast:

- ▶ breast circumference: 72 cm
- ▶ base of breast to nipple: 25 cm

Figure 5 Spontaneous resolution of breast tissue hypertrophy.

Figure 6 Right lateral view after spontaneous resolution.

- ▶ base of breast to lowest border of breast: 37 cm.

Left breast:

- ▶ breast circumference: 66 cm
- ▶ base of breast to nipple: 28 cm
- ▶ base of breast to lowest border of breast: 34 cm.

Patient delivered a female baby at 28 weeks due to pre-eclampsia. A 1 kg female child was born vaginally, which expired 3 days post partum.

INVESTIGATIONS

Sonomammogram: No obvious focal lesion. Grossly enlarged and oedematous breasts. Diffuse subcutaneous oedema with increased vascularity. No axillary, internal mammary or cervical lymph nodes.

- ▶ Oestradiol: 2314 pg/mL.
- ▶ Progesterone: 356 ng/mL.

Figure 7 Left lateral view after spontaneous resolution.

- Prolactin: 154 µg/mL.

DIFFERENTIAL DIAGNOSIS

- gestational gigantomastia
- physiological breast hypertrophy of pregnancy
- phyllodes tumour.

TREATMENT

Following termination of the pregnancy, the patient was offered three choices. The first being regular follow-ups and observation. The second being oral bromocriptine tablets (2.5 mg two times per day). The third choice offered was a reduction mammaplasty. The patient opted for regular follow-up and observation.

For the back and shoulder ache, paracetamol 500 mg was prescribed on an SOS basis.

The patient underwent psychological counselling by a psychologist in view of her social awkwardness and low self-esteem.

OUTCOME AND FOLLOW-UP

While regularly following up, the size of both breasts was observed to gradually reduce (figures 5–7). The measurements of the breasts after 7 months of follow-up were as follows:

Right breast:

- breast circumference: 40 cm
- base of breast to nipple: 14 cm
- base of breast to lowest border of breast: 18 cm.

Left breast:

- breast circumference: 36 cm
- base of breast to nipple: 14 cm
- base of breast to lowest border of breast: 16 cm.

The patient also mentioned that she felt much better overall in terms of her back and shoulder pain.

She felt less awkward and was more active socially since the reduction in size.

DISCUSSION

Approximately 100 cases of gestational gigantomastia have been described in medical literature.¹ The first case of gestational gigantomastia was reported by Palmuth in 1648.² Rezai *et al* described a case of gestational gigantomastia in a Guinean woman who underwent reduction mammaplasty 8 months post partum.⁴ Agarwal *et al* have reported a case of gestational gigantomastia in an Indian woman in 2013, who was lost to follow-up.⁵

Gestational gigantomastia is a rare condition of massive breast enlargement during pregnancy. The incidence has been reported to be between 1 in 28 000 to 1 in 100 000 pregnancies.³

Dafydd *et al* defined gigantomastia as excess breast tissue that contributes more than 3% of the patient's total body weight.⁶

The risk factors and aetiology are not well understood. The incidence is more common among Caucasian women.⁷ The gigantomastia may occur during any pregnancy⁸ with an increased risk if previous pregnancies were complicated by gestational gigantomastia.^{9 10}

Some theories regarding the aetiology include excessive oestrogen or prolactin production, increased hormone receptor sensitivity and underlying autoimmune disease triggered by pregnancy.¹¹

The treatment of gestational gigantomastia is a tailored approach. Conservative management includes good breast support, hygiene to prevent ulceration and analgesia. Postpartum resolution of the breast tissue hypertrophy in most cases has been reported.⁹ Medical and surgical interventions are indicated

in cases of non-regression or complications such as ulceration or haemorrhage.

Bromocriptine is the most widely used drug in the treatment of gestational gigantomastia. Bromocriptine aids in healing of necrotic breast ulcerations, arrests breast enlargement and promotes regression.¹² Bromocriptine must be used with careful monitoring if given during the pregnancy as it is known to cause fetal intrauterine growth retardation.⁴

Tamoxifen, hydrocortisone, diuretics and medroxyprogesterone are options of conservative treatment.¹³

Cho *et al* reported a patient of gestational gigantomastia was administered with tamoxifen for 1 year after reduction mammaplasty surgery. However, the aspect of effectiveness of tamoxifen could not be concluded.¹⁴

Surgical intervention is indicated in cases of massive haemorrhage, ulceration, sepsis and breast necrosis.^{15 16}

Simple mastectomy and reduction mammaplasty present a chance of recurrence due to remnant breast tissue, bilateral mastectomy with reconstruction is the treatment of choice in women who desire future pregnancies.^{17 18}

An equally important aspect of this disease is the psychological trauma faced by the patient due to her physical appearance.^{1 14} The breast is an integral part of a woman's self-esteem and this can be compromised in such disfiguring diseases of the breast. Proper psychological counselling is necessary to help such patients overcome the sociophobia they suffer from.

Patient's perspective

I was unable to do my day-to-day activities due to the discomfort in my breasts, back and shoulders. I would find it difficult to leave the house as I was very conscious about the size of my breasts. People would often stare at me which made me very shy and depressed. My husband was also very dissatisfied with the size of the breasts. After the reduction of size of the breasts, I feel much more confident and am able to perform my day-to-day activities and have returned to my job.

Learning points

- Gestational gigantomastia is a rare condition of massive enlargement of the breasts during pregnancy. The aetiology and pathogenesis of this disease remain unclear.
- Majority of the cases undergo spontaneous resolution of breast tissue hypertrophy post partum.
- Medical treatment includes bromocriptine which must be given with care as it can cause intrauterine growth retardation.
- Surgical interventions are indicated in complicated cases such as ulceration, haemorrhage, sepsis and breast necrosis. Simple mastectomy and reduction mammaplasty present chances of recurrence and hence, if future pregnancies are desired, bilateral mastectomy with reconstruction is the treatment of choice.
- Psychological care of the patient is an integral aspect that must not be neglected.

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